



Implementing total quality management with a focus on enhancing customer satisfaction

Total quality management

913

Satish Mehra and Sampath Ranganathan

*Fogelman College of Business and Economics, The University of Memphis,
Memphis, Tennessee, USA*

Received November 2007

Revised May 2008

Accepted May 2008

Abstract

Purpose – Aims to examine the role of total quality management (TQM) towards enhancing customer satisfaction.

Design/methodology/approach – Using meta-analysis, existing research studies on TQM and customer satisfaction were quantified, summarized, and tested for moderators to clarify TQM impact.

Findings – It is found that TQM substantially increases customer satisfaction across diverse industrial and cultural settings.

Originality/value – This research broadens the scope of TQM applicability across varied industrial and cultural settings to achieve higher customer focus, increased customer satisfaction, and stresses the need for more meta-analytic studies on the subject.

Keywords Total quality management, Customer satisfaction

Paper type Research paper

1. Introduction

Stressing the importance of product quality, some have suggested that improvement of service and tangible product quality is the single most critical challenge facing US businesses (Zeithaml *et al.*, 1990). Improving quality is no longer considered as the duty of the manufacturing department, it is everybody's job in the organization. Quality improvement must become a philosophy as well as a way of life. One movement which stressed this view point was total quality management (TQM). TQM is defined as an organization-wide philosophy requiring all employees at every level of an organization to focus his/her efforts to help improve each business activity of the organization (Mehra *et al.*, 2001). Compared to the result-oriented quality programs of the past, TQM is process oriented. Much of the quality literature in 1990s discussed about how Japanese firms used TQM to improve their competitive positions, and how it influenced other businesses followed them (Yavas, 1995).

Emphasizing TQM both as a process and a philosophy, previous writers state that:

[...] the people in the organization are required to make quality a culture in their daily lives. Furthermore, it is also important to understand that TQM is a long-term perpetual improvement process requiring significant resources, both financial and human. It is a dynamic process – not a static one. It is a continuous effort with no deadlines or target dates. The process can never be considered complete since there is no goal or destination; hence, TQM becomes a way of life (Mehra *et al.*, 2001, p. 856).

Even though the popularity of TQM grew, sceptics started questioning the usefulness of TQM. Many Japanese firms which successfully implemented TQM failed when the



International Journal of Quality &
Reliability Management
Vol. 25 No. 9, 2008
pp. 913-927

© Emerald Group Publishing Limited
0265-671X
DOI 10.1108/02656710810908070

Japanese economy went on a long recession in 1990s. Dawson (1995) said that TQM is excessively dependent on Japanese culture and cannot be successfully implemented in individualistic cultures like the USA. Other scholars argue that TQM is not adaptable to dynamic situations in the current business environment (Dooley and Flor, 1998). However, Hoover (1995) says that management expects too much, and too soon from adapting TQM. He cautions against the overselling of TQM as the panacea for all problems that plague a firm. Therefore, instead of claiming that TQM has failed management, one can argue that management has failed TQM.

As debate on the impact of TQM continued, research on TQM increased dramatically in 1990s (Filippini, 1997). In spite of the increase in research on TQM, many questions remain unanswered. For instance, various components of TQM must be explored, and the impact of TQM on organizational performance must be analyzed (Filippini, 1997).

Mehra *et al.* (2001) conducted a literature review on TQM and suggested that businesses implementing TQM should focus on five elements. These elements are human resources (HRs), management structure, quality tools, supplier support, and customer orientation. After summarizing the literature on TQM, Mehra *et al.* (2001) concluded that the organizational emphasis in future will shift towards following four main areas for quality improvement:

- (1) customer focus;
- (2) process focus;
- (3) innovation focus; and
- (4) environmental focus.

Mehra *et al.* (2001) particularly stressed the importance of customer focus and said that TQM itself is customer oriented. Authors emphasized the importance of the elements of customer loyalty and customer satisfaction in the area of customer focus. Stressing the need for using TQM to enhance customer focus, these authors stated that businesses must shift their focus toward customer satisfaction. Given that customer focus is heavily mentioned in the literature, Mehra *et al.* (2001) proposed that TQM of the future should be redefined to include customer focus. Hence, one can understand that TQM by definition is a customer-oriented philosophy, and customer focus is expected to occupy a predominant place in the future of TQM literature. These arguments find support from various scholars. For instance, Chien *et al.* (2002) say that for a firm attempting to implement TQM, customer satisfaction is an important objective to achieve. They argue that the level of customer satisfaction achieved is closely related to a company's TQM practices, and it affects a company's performance. In a later study on quality management, Kaynak (2003) suggested further research is necessary on the relationship between TQM and customer relations/satisfaction. Hence, it is plausible that customer-focused organizations need catalytic agents like TQM to enhance customer focus and their performance.

2. Objectives of the study

Based upon the above stated arguments, we believe that studying the impact of TQM on the four focus areas mentioned by Mehra *et al.* (2001) will ensure enhanced organizational performance. However, studying the impact of TQM on all the focus areas and elements is way beyond the scope of any one study. Therefore, in our present

study, we attempt to investigate the impact of TQM on one single focus area; customer focus. To achieve our objectives, we use meta-analysis to identify potential moderators of the relationship between TQM and performance through customer satisfaction. First, let us present findings of our literature survey on TQM and customer satisfaction.

3. Related literature

3.1 History of TQM

As early as 1979, Crosby (1979) defined 14 steps for quality improvement. His work finds support in the writings of Ishikawa (1976, 1985) who emphasized the importance of training, problem solving, and quality circles as a method to achieve continuous improvement. Deming (1986), in his landmark work, *Out of the Crisis*, divulged the 14 principles that formed the basis of TQM. Juran (1986) identified the three basic functions of a quality management process: planning, organization, and control as the stages for quality improvement programs. For successful quality improvement, Feigenbaum (1991) stressed the need of leadership, a commitment to incorporate quality in the organization's practices, and the participation of the entire workforce. These advocates of quality management studied the philosophical underpinnings of TQM and suggested various approaches to quality management.

Both 1980s and 1990s witnessed the emergence of Japanese company wide quality control programs like Deming prize, Malcolm Baldrige, Australian and European quality awards, ISO 9000 series of quality standards, and QS-9000 based quality systems. Many organizations around the world followed these quality approaches and improved the quality of their products, services, and operational performance measures (Chin *et al.*, 2003). Following the global trend, TQM became the quality buzzword in the USA during 1980s. Businesses all over USA tried to implement the Deming and/or Juran principles of quality in their firms. Many firms adopted TQM in their operations and saved millions of dollars (Goldman, 2005).

From its inception, TQM was customer oriented. Goldman (2005) noted that the customers' needs should be fully integrated into the design and development of products and services. However, doing so demands that the customer should be treated as an equal partner in the product's life cycle. Hence, it is not surprising that TQM and marketing literatures have given much emphasis to customer satisfaction.

3.2 TQM and customer orientation

Customers have expectations from an organization which they patronize. If those expectations are not met, they get dissatisfied, and stop patronizing the organization. Whether it is a restaurant or a church or a hospital, if it fails to meet the expectations of its customers then it cannot retain him/her. Hence, maybe due to this reason, marketing literature gives paramount importance to customer satisfaction. Studying the profitability of 472 restaurants, Bernhardt *et al.* (1994) reported that customer satisfaction data collected at any point in time were directly related to restaurant profits nine months later. Similarly, studying a diverse group of firms, Anderson *et al.* (1993) reported that customer perceptions of quality were positively related to return on investment. Eklof and Westlund (1998) points out to the fact that customer satisfaction is effective in quality management and it has the most important role while implementing TQM. Geyskens *et al.* (1999) view customer satisfaction as an important

antecedent variable for developing long-term marketer – customer relationships. Hence, organizations which want to build a loyal customer base with strong relational foundation cannot ignore customer satisfaction. They have to strive hard to satisfy their customers in order to retain them.

Corporations of the past did not pay much attention to customer satisfaction. Now, due to lower sales and product maturity, they are turning around to stabilize existing customers to ensure their market shares. They have now realized that customer satisfaction will increase customer loyalty, which in turn improves profits (Bruhn and Grund, 2000). Anderson and Fornell (2000) argue that customer satisfaction will lower the chance of customers being driven away due to the poor quality of products or services. Agus *et al.* (2000) argue that implementing TQM strengthens a company's customer satisfaction and improves its financial performance. Naumann *et al.* (2001) also point out that, for the next ten years, customer satisfaction would be the main focus of strategic planning by businesses. Due to customer satisfaction becoming one of the important judging factors in national quality awards, satisfying customers will play an important role in every corporation's future growth. Firms which understand the significance of customer satisfaction will reap rich rewards.

3.2.1 TQM in services. TQM concepts are widely used in health care industry to improve customer satisfaction. Ingram and Chung (1997) report that adopting TQM programs shifts moderately satisfied customers of health care organizations into maximally satisfied customers. Hasin *et al.* (2001) indicates that hospitals in Thailand use TQM because health care industry in Thailand has become very competitive. Authors further suggest that customer satisfaction is an enormously important ingredient of TQM. Endorsing this view, Aghazadeh (2002) says that TQM has now only begun to take precedence in American companies, and since health care is an industry where individualized care and attention is needed, TQM is absolutely important for businesses.

3.2.2 TQM in manufacturing. TQM's impact on manufacturing sector was also studied by many scholars. Terziovski and Samson (1999) studied the impact of TQM programs on organizational performance of manufacturing industries in Australia. They reported that a typical manufacturing organization is more likely to achieve successes in employee relations, customer satisfaction, and business performance with TQM. Supporting their view, Agus *et al.* (2000) reported that TQM programs are widely used by manufacturing companies in Malaysia to enhance their financial performance. Furthermore, Agus *et al.* (2000) indicate that the impact of TQM on financial performance is mediated by customer satisfaction. Thus, an organization which implements TQM will have high customer satisfaction leading to improved financial performance. Examining additional literature on TQM and customer satisfaction, we find numerous arguments that suggest using a TQM program enhances customer satisfaction.

Given that customer satisfaction is important, is TQM an effective method to attain customer satisfaction? What is the magnitude of relationship between TQM and customer satisfaction? Does the relationship between TQM and customer satisfaction affected by the culture of a nation or by the industry type? These questions remain unanswered, and hence, they are the main reasoning of our current research. Specifically, following research questions (RQs) will be the focal point of this study:

RQ1. What is the nature of the relationship between TQM and customer satisfaction?

Total quality
management

RQ2. Do culture and industry types (manufacturing versus service) mediate the relationship between TQM and customer satisfaction?

RQ3. What is the nature of the relationship between TQM and customer focus?

917

With this background on the literature and RQs, first, let us justify the formulation of propositions for this study.

4. Study propositions

Many researchers have studied the impact of TQM practices on customer satisfaction. TQM is used by a wide range of service and manufacturing industries to increase customer satisfaction. American Express started using TQM processes as a pilot in one of its Dutch subsidiary in 1990s, and based on its success, company expanded the program internationally. As a result, recognizing the importance of customer satisfaction, American Express recovered its top position and went far ahead of its competitors by using the American Express quality leadership (AEQL) framework (Vendrig, 1996). Al-Saggaf (1997) conducted a case study on the impact of TQM initiatives on improving customer satisfaction in the electric service industry in Saudi Arabia and reported that such initiatives increase customer satisfaction, reduces cycle time, and minimizes total cost. Kanji *et al.* (1999) report that even though UK universities are slow to adopt TQM, those universities which followed TQM philosophy found enhanced student performance and customer satisfaction. These studies lead us to believe that implementation of TQM in an organization can result in increased customer satisfaction, and hence, we propose a direct positive relationship between TQM and customer satisfaction and posit *P1* as follows:

P1. A TQM program has a direct positive impact on customer satisfaction.

Scholars like Dawson (1995) and Dooley and Flor (1998) argue about the effectiveness of TQM. Dawson (1995) argues that TQM will not work in individualistic cultures like that of the USA. Reflecting on the adoption of TQM in western companies, Dawson (1995) writes that the substance of quality initiatives will vary across nations and businesses due to cultural differences. Author cites studies which show how important it is to view TQM as a well-defined Japanese technique not transferable for universal adoption. He calls for studies that examine TQM in its cultural, social, and political context. Dooley and Flor (1998) also doubt the effectiveness of TQM by saying that TQM is not suited for a multicultural business environment.

Some researchers have raised concerns about the effectiveness of TQM in service industries. They argue that service companies cannot measure quality costs because their products are intangible, perishable, and consumed at the point of delivery. Hence, service organizations providing intangible services are sceptical about TQM techniques and its adoption cost. In an interview conducted among managers of service firms by Elmuti and Kathawala (1999), almost 40 percent of the respondents indicated that TQM initiatives failed to improve the quality of services and productivity in their organizations. Major reasons cited for such failures were the

unique characteristics of services, and implementation of TQM practices without a full understanding of this philosophy.

Studying the implementation of TQM in the UK banks, Cowling and Newman (1995) found that the banks failed to commit their employees to follow quality initiatives. Authors cited hierarchical structures, bureaucratic procedures, and paternalistic employment practices as the major reason for TQM failure. Adding to problems is the fact that there exists a perennial problem of overcoming the suspicion that exists between corporate office and various branches. Other researchers (Beaver, 1994; Jauch and Orwig, 1994) also argue that TQM will not be effective in a service setting because of the unique characteristics of services. Since, questions are raised about the effectiveness of TQM across cultures and industry settings (service versus manufacturing), we decided to test for moderators based upon type of industry and individualistic versus collectivistic cultures by positing propositions *P2* and *P3* as follows:

- P2.* The impact of a TQM program on customer satisfaction will be same across individualistic and collectivistic cultures.
- P3.* The impact of a TQM program on customer satisfaction will be same across service and manufacturing businesses.

Stressing the need for TQM programs to have customer focus as its main goal, Tsang and Antony (2001) write that understanding, satisfying, and surpassing customer needs should be one of the main goals of implementing TQM programs. Also, as per these authors, employees should be customer focused. Along similar lines, Dean and Bowen (1994) argue that customer focus should be a key TQM ideal. Summing up the literature on TQM, Mehra *et al.* (2001) propose that TQM of the future should be redefined to include customer focus, and in a later study, Kaynak (2003) also suggested further research on implementing TQM and customer relations. Hence, we argue that a successfully implemented TQM program would increase customer focus, and state the fourth proposition as follows:

- P4.* Implementing TQM program increases customer focus in organizations.

5. Methodology

Objective of this research is to study the impact of implementing TQM programs on customer satisfaction across varied businesses in different cultures. Towards this objective, we undertook a meta-analysis of the existing research studies on TQM and its link to customer satisfaction. Meta-analysis is the statistical analysis of a large collection of analyzed results from various individual studies for the purpose of integrating the findings (Glass, 1976). Meta-analysis represents key study findings in a sophisticated manner, and it is capable of finding effects (or relationships) that are obscured in other forms of research, and furthermore, it provides an organized way of handling information from a large number of studies under review (Lipsey and Wilson, 2001). In meta-analysis, existing literature is searched for studies that are relevant to the nature of a specific enquiry. Studies which quantify a numerical relationship between the dependent and independent variable form the basis for subsequent analysis. Once the study database is formed, the next step is to convert each individual study statistic to a common metric for later analysis.

The first step in any meta-analysis is to search extensively for relevant studies. For this research, we searched for studies which had TQM as the independent variable, and customer satisfaction as the dependent variable. Search was conducted by using Boolean expression – TQM and customer satisfaction. A keyword search in prominent databases, ABI-Inform global and EBSCOhost, yielded 361 and 255 studies, respectively. We carefully scrutinized these studies, one by one, and identified specific empirical articles of interest to this research. Articles which reported a direct relationship between TQM and customer satisfaction as correlation coefficients were the only ones selected.

In the end, we were surprised by the lack of empirical studies that have researched the relationship between TQM and customer satisfaction. This is in line with observations of Yasin *et al.* (2004, p. 45) who said:

The bulk of the literature appears to support the notion that there exists a positive relationship between quality improvement efforts and the various facets of organizational performance such as operational efficiency, customer satisfaction, financial performance, and even competitive advantage. However, empirical research addressing the relationship of quality improvement efforts and its impact on organizational performance is slow in forthcoming.

We hope that the research conducted in this study will fill this void.

6. Research analysis

6.1 TQM and customer satisfaction

Utilizing the selected research studies, we started converting all statistics of relationship to effect size. Cooper (1998) calls an effect size as a statistic that measures the magnitude of relationship (or relationship strength) between two variables. A correlation is the most appropriate metric for expressing an effect size when we describe the relationships between two continuous variables (Cooper, 1998). Since, the studies included in the analysis measured TQM and customer satisfaction as continuous variables, we used the correlation coefficient as the effect size. Additionally “study” was used as the unit of analysis (Hunter and Schmidt, 1990) and within-study correlations were averaged to derive the overall relationship for each study. We extracted 74 correlations between independent and dependent variables from eight studies. Within each study, correlations were averaged to derive a single correlation coefficient for that study. In studies that reported correlations between different components of TQM and customer satisfaction, such correlations were averaged, and a single correlation coefficient for each study was derived. We then converted these correlation coefficients into Fisher’s *Z*-value to test our research propositions. It needs mentioning that the total size of respondents from all studies used in our present analysis is 3,411.

We coded the study for moderators. Given the number of studies, and the fact that the moderating characteristics were objective (service versus manufacturing, collective versus individualistic cultures), coding was agreeable among authors (a pre-requisite for meta-analysis). While coding for national cultures, we used the east-west classification used by scholars like Ralston *et al.* (1997). Eastern countries are high on collectivism and western countries are high on individualism (Ralston *et al.*, 1997). Thus, studies from Asian countries were coded as collectivistic while European and the US studies were coded as individualistic. This coded data is shown in Table I.

The Z-scores were in a range of 0.16-0.74. Mean and median values were 0.42 and 0.43, respectively, with a standard deviation of 0.215. In essence, the average effect size between customer satisfaction and TQM is 0.42. This effect size of 0.42 can be labeled as small to medium (Lipsey and Wilson, 2001), implying that implementing a TQM program does impact customer satisfaction. A one sample *t*-test was conducted to find out whether the relationship between independent and dependent variables were different from zero. The argument that the relationship between TQM and customer satisfaction is non-existent was rejected ($t = 5.58, P < 0.01$). The 95 percent confidence interval for Fisher's Z score was 0.24-0.60. If the 95 percent confidence limit does not contain zero, then the proposition of no relationship between dependent and independent variable can be rejected (Cooper, 1998). Hence, we conclude that proposition *P1* (which proposes a direct relationship between TQM and customer satisfaction) is valid.

We conducted a *t*-test for equality of means. We failed to reject the notion that individualistic and collectivistic cultures moderate the relationship between TQM and customer satisfaction. ($F = 0.095, P = 0.768$). Hence, *P2* is also valid. Next we tested for the moderation on type of industries. We failed to reject the argument that service versus manufacturing industries distinction moderates the relationship between TQM and customer satisfaction. ($F = 1.638, P = 0.248$). Thus, *P3* is a valid study proposition. Related analysis is presented in Table II.

6.2 TQM and customer focus

We repeated the same process for the dependent variable customer focus. A search in ABI-Inform database with key words TQM and customer focus yielded 68 studies. A similar search in Business Source Premier yielded 44 studies. We analyzed these studies (one by one) to locate those empirical studies which reported correlations between TQM and customer focus. For this research, meta-analysis was conducted

Table I.
Coding sheet: customer
satisfaction

Study	Continent	Industry	Fisher's Z
Agus (2004))	Asia	Service	0.161
Agus <i>et al.</i> (2000)	Asia	Manufacturing	0.255
Ruggieri and Merli (1998)	Europe	Service	0.536
Ingram and Chung (1999)	USA	Service	0.632
Wong (2002)	Asia	Manufacturing	0.53
Claver <i>et al.</i> (2003)	Europe	Manufacturing	0.202
Sakthivel <i>et al</i> (2005)	Asia	Service	0.74
Yang (2006)	Asia	Manufacturing	0.319

Table II.
Coding sheet: customer
focus

Study	Continent	Industry	Fisher's Z
Tsang and Antony (2001)	Europe	Service	0.6931
Morrow (1997)	USA	Service	0.3769
Dow <i>et al.</i> (1999)	Australia	MFG	0.2877
Agus <i>et al.</i> (2000)	Asia	MFG	0.5101
Terziovski (2006)	Australia	MFG	0.2661

using “study” as a unit of analysis (Hunter and Schmidt, 1990). Hence, within-study correlations were averaged to derive the overall relationship for each study. As a result, 34 correlations between independent variable and dependent variable from these studies were obtained. Correlations within each study were averaged, and a single correlation coefficient for each study was derived. These correlations were then converted into Fisher’s *Z* value for checking the validity of fourth proposition. It needs mentioning that the total size of respondents from all studies used in our analysis was 4,387. The *Z*-scores were in a range of 0.26-0.69. Mean was 0.42, and median was 0.37, and standard deviation was 0.17. In essence, the average effect size between customer focus and TQM is 0.42. The effect size of 0.42 can be called as small to medium (Lipsey and Wilson, 2001), implying that implementing a TQM program impacts organization’s focus on customers.

A one sample *t*-test was conducted to find out whether the relationship between independent and dependent variables was different from zero. The argument that the relationship between TQM and customer focus is zero was rejected ($t = 5.387$, $P < 0.01$). The 95 percent confidence interval for Fisher’s *Z* score was 0.20-0.64. If the 95 percent confidence limit does not contain zero, then the basis of no relationship between dependent and independent variable can be rejected (Cooper, 1998). Hence, *P4* is also a valid proposition. Supporting analysis is shown in Table III.

7. Research findings and their contributions

Our research highlights the importance of analyzing the impact of TQM practices on organizational performance. As suggested by various recent researchers (Kaynak, 2003; Mehra *et al.*, 2001), this research was also an attempt on quantifying the relationship between TQM, customer focus, and customer satisfaction. Through the use of meta-analysis, we found that implementing TQM programs in an organization directly and positively impacts customer satisfaction, and most importantly, this relationship is invariant across types of industries and cultures. This leads us to conclude that there is no merit arguing that TQM programs can be successful only in collectivistic cultures. Furthermore, our study finds TQM ideals to be equally effective in service firms as well as manufacturing firms. Thus, TQM practices can impact customer satisfaction uniformly across varied cultures and different industry types. Organizations that successfully implement TQM will benefit from increased customer satisfaction.

Additionally, our meta-analysis based research finds that successfully adopted TQM programs have a solid grounding in customer focus. This provides strong support for the arguments of Mehra *et al.* (2001) who stressed the importance of customer focus in designing of TQM programs. This study indicates that firms must treat customer focus as a core component of TQM practices in their journey towards

Variables	<i>N</i>	Mean	Median	SD	95 percent CI	Effect size
TQM-SAT	3411	0.42	0.43	0.215	0.24-0.60	Medium
TQM-customer focus	4387	0.42	0.37	0.17	0.20 to 0.64	Medium

Notes: SAT, customer satisfaction; *N*, sample size; SD, standard deviation; 95 percent CI, 95 percent confidence interval for mean

Table III.
Descriptive statistics

effectively building a customer-focused organization. In this regard, our paper addresses to the need for research between TQM implementation and customer relations as proposed by previous writers (Kaynak, 2003; Hendricks and Singhal, 1997). Furthermore, based on our meta-analytic research, we propose a working definition for TQM as follows:

TQM is a management strategy that, with sound design and successful implementation, can be adopted to enhance customer satisfaction through a concerted focus on customers. Furthermore, this strategy is equally applicable to both manufacturing and service businesses operating in varied global cultures.

8. Managerial implications research findings

In order to ascertain real world contributions (value) of our findings, we formed a focus group of four senior quality managers, each with a minimum of ten years of quality management experience in manufacturing and service sectors. Our objective was two-fold; first, to seek affirmation of our findings about TQM and customer satisfaction, and second, to refine the findings (as needed) in order to develop some guidelines for future managerial actions.

Towards the first objective, we shared the detailed study conclusions with each focus group member individually to get their feedback on the real world applicability of our findings. Except for minor comments and clarifications, panel members were in agreement with the research conclusions. Additionally, each member provided us with their own views on the design and use of TQM programs towards enhancing customer satisfaction. These views are discussed next.

First and foremost, businesses must become highly effective through understanding their customers' needs. This will require that specific skills be imparted to the organizational workforce. Such HR skills should be customized for each business depending upon its products and services as well as its unique market dynamics. Second, due to the global nature of the markets, necessary multicultural training becomes a must for all business personnel to effectively understand both the customers and the competition. Third, businesses must prepare their employees in gauging a customer's experience using specific assessment criterion in a timely manner. In view of these arguments, following *three-step managerial action* plan can assist organizational efforts to enhance performance:

- (1) Develop customized skills in the workforce for understanding customer needs at critical customer contact points.
- (2) Impart multicultural training to specific employees for understanding both the global customers and the world-wide competition.
- (3) Train relevant personnel in assessing customer experience (satisfaction level) at the right time throughout the sensitive and major contact points.

Based on our study findings, and with the feedback from focus group members, we propose a conceptual model for adopting TQM practices in businesses. It is shown in Figure 1 and discussed next.

9. Model justification and future research

In our model, we argue that the aforementioned points be carefully considered in designing a TQM program to achieve customer focus. Through reverse feedback,

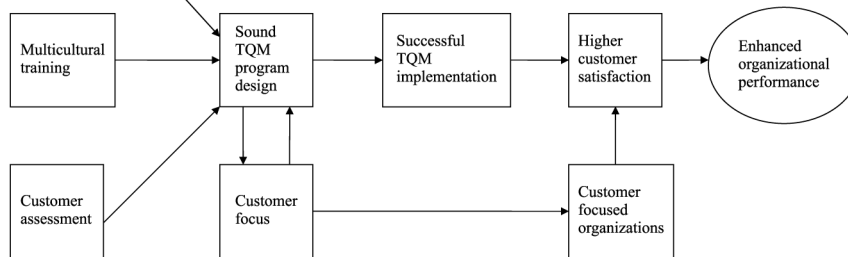


Figure 1.
Conceptual model of TQM
implementation and its
impact on organizational
performance

customer focus can facilitate future enhancements towards designing customized quality programs for a business. This is not to say that one ignore the traditional elements of a TQM system design; our arguments should be considered supplemental to the traditional design process. Such a quality program, when successfully implemented, will increase customer awareness in the organization leading to higher satisfaction and enhanced organizational performance. Additionally, the quality program may provide a basis for future improvements and/or innovations for various departmental units in a business by becoming more of a customer-focused unit. It is hoped that future researchers will examine the validity of our proposed conceptual model through challenging its assumptions.

We propose that TQM programs be looked upon as an effective way of building customer-focused organizations. We also suggest that future studies examine the relationship between customer-focused TQM programs and increases in customer satisfaction among business clientele. This may clarify whether employees in a business should be extensively trained (in specific quality tools) with a focus on understanding and satisfying customer needs and wants.

Certain recent studies (Kaynak, 2003; Mehra *et al.*, 2001) strongly recommended that future research examine the relationship between quality management practices and their impact on various elements of organizational performance such as customer satisfaction. It is hoped that our research has filled this gap and it has also provided guidelines for future research.

10. Conclusions

This research was an attempt to answer key questions on the relationship between implementing TQM programs and the customer side of a business, specifically customer satisfaction and customer focus. Based on our findings, we conclude that successfully adopted quality management practices positively impact customer satisfaction level. Additionally, organizational focus on customers also increases resulting in enhanced business performance. Through our interaction with practicing managers, this paper also proposed a working definition of TQM and provided a set of

guidelines for managers to implement TQM practices in both the manufacturing and the service businesses.

Every study has *limitations*, and this one is no exception. Unfortunately, studies reporting relationship between quality improvement efforts and organizational performance are slow in forthcoming (Yasin *et al.*, 2004). Hence, our study sample size was limited. Even though our research study compares favorably with other studies (Davis and Rothstein, 2006), we hope that in future more studies may be available for inclusion in the meta-analysis. It is strongly suggested that future researchers report correlation measures in their studies, enabling theory building meta-analytic research on the other TQM focus areas (process focus, innovation focus, and environmental focus) that could not be covered in this paper.

References

- Aghazadeh, S. (2002), "Implementation of total quality management in the managed care industry", *The TQM Magazine*, Vol. 14 No. 2, pp. 79-91.
- Agus, A. (2004), "TQM as a focus for improving overall service performance and customer satisfaction: an empirical study on a public service sector in Malaysia", *Total Quality Management and Business Excellence*, Vol. 15 No. 5, pp. 615-28.
- Agus, A., Krishnan, S.K. and Kadir, S.L.S.A. (2000), "The structural impact of total quality management on financial performance relative to competitors through customer satisfaction: a study of Malaysian manufacturing companies", *Total Quality Management*, Vol. 11 Nos 4-6, pp. 808-19.
- Al-Saggaf, H.A. (1997), "Application of TQM at SCECO-EAST: a case study", *Journal of Quality in Maintenance Engineering*, Vol. 3 No. 1, pp. 40-54.
- Anderson, E.W. and Fornell, C. (2000), "Foundations of the American Customer Satisfaction Index", *Total Quality Management*, Vol. 11 No. 7, pp. 869-82.
- Anderson, E.W., Fornell, C. and Lehmann, D. (1993), "Economic consequences of providing quality and customer satisfaction", working paper, Marketing Science Institute, Cambridge, MA, pp. 93-112.
- Beaver, W. (1994), "Is TQM appropriate for the classroom?", *College Teaching*, Vol. 42 No. 3, pp. 111-4.
- Bernhardt, K.L., Dontho, N. and Kennett, P. (1994), *The Relationship Between Customer Satisfaction, Employee Satisfaction, and Profitability: A Longitudinal Analysis*, Department of Marketing, Georgia State University, Atlanta, GA.
- Bruhn, M. and Grund, M.A. (2000), "Theory, development and implementation of national customer satisfaction indices: the Swiss Index of Customer Satisfaction (SWICS)", *Total Quality Management*, Vol. 11 No. 7, pp. 1017-28.
- Chien, T.K., Su, C.H. and Su, C.T. (2002), "Implementation of a customer satisfaction program: a case study", *Industrial Management & Data Systems*, Vol. 102 No. 5, pp. 252-9.
- Chin, K.S., Tummala, V.M.R. and Chan, K.M. (2003), "Quality management practices in Hong Kong industries: a comparison between electronics and toy manufacturing industries", *The International Journal of Quality and Reliability Management*, Vol. 20 Nos 8/9, pp. 1051-83.
- Claver, E., Tari, J.J. and Molina, J.F. (2003), "Critical factors and results of quality management: an empirical study", *Total Quality Management and Business Excellence*, Vol. 14 No. 1, pp. 91-118.

-
- Cooper, H.M. (1998), *Synthesizing Research: A Guide for Literature Reviews*, 3rd ed., Sage, Thousand Oaks, CA.
- Crosby, P.B. (1979), *Quality is Free: The Art of Making Quality Certain*, Hodder & Stoughton, New York, NY.
- Cowling, A. and Newman, K. (1995), "Banking on people: TQM, service quality, and human resources", *Personnel Review*, Vol. 24 No. 7, pp. 25-40.
- Davis, A.L. and Rothstein, H. (2006), "The effects of the perceived behavioral integrity of managers on employee attitudes: a meta-analysis", *Journal of Business Ethics*, Vol. 67 No. 4, pp. 407-19.
- Dawson, P. (1995), "Troubles with TQM – Pirelli Cables Australia Limited", *Managing Service Quality*, Vol. 5 No. 6, pp. 18-20.
- Dean, J.W. Jr and Bowen, D.E. (1994), "Management theory and total quality: improving research and practice through theory development", *The Academy of Management Review*, Vol. 19 No. 3, pp. 392-418.
- Deming, W.E. (1986), *Out of the Crisis*, MIT Press, Cambridge, MA.
- Dooley, K. and Flor, R. (1998), "Perceptions of success and failure in TQM initiatives", *Journal of Quality Management*, Vol. 3 No. 2, pp. 157-75.
- Dow, D., Samson, D. and Ford, S. (1999), "Exploding the myth: do all quality management practices contribute to superior quality performance?", *Production and Operations Management*, Vol. 8 No. 1, pp. 1-27.
- Eklof, J.A. and Westlund, A. (1998), "Customer satisfaction index and its role in quality management", *Total Quality Management*, Vol. 9 Nos 4/5, pp. 80-5.
- Elmuti, D.S. and Kathawala, Y. (1999), "Small service firms face implementation challenges", *Quality Progress*, Vol. 32 No. 4, pp. 67-75.
- Feigenbaum, A. (1991), *Total Quality Control*, McGraw-Hill, New York, NY.
- Filippini, R. (1997), "Operations management research: some reflections on evolution, models and empirical studies in OM", *International Journal of Operations & Production Management*, Vol. 17 No. 7, pp. 655-70.
- Geyskens, I., Steenkamp, J.E.M. and Kumar, N. (1999), "A meta-analysis of satisfaction in marketing channel relationships", *Journal of Marketing Research*, Vol. 36 No. 2, pp. 222-38.
- Glass, G. (1976), "Primary, secondary and meta-analysis of research", *Educational researcher*, Vol. 5, pp. 3-8.
- Goldman, H.H. (2005), "The origins and development of quality initiatives in American business", *The TQM Magazine*, Vol. 17 No. 3, pp. 217-25.
- Hasin, M.A.A., Seeluangsawat, R. and Shareef, M.A. (2001), "Statistical measures of customer satisfaction for health care quality assurance: a case study", *International Journal of Health Care Quality Assurance*, Vol. 14 No. 1, pp. 6-13.
- Hendricks, K. and Singhal, V.R. (1997), "Does implementing an effective TQM program actually improve operating performance? Empirical evidence from firms that have won quality awards", *Management Science*, Vol. 43, pp. 1258-74.
- Hoover, H.W. Jr (1995), "What went wrong in US business's attempt to rescue its competitiveness?", *Quality Progress*, Vol. 28 No. 7, pp. 83-6.
- Hunter, J. and Schmidt, F. (1990), *Methods of Meta-Analysis*, Sage, Newbury Park, CA.
- Ingram, B.L. and Chung, R.S. (1997), "Client satisfaction data and quality improvement planning in managed mental health care organizations", *Health care management review*, Vol. 22 No. 3, pp. 40-52.

- Ishikawa, K. (1976), *Guide to Quality Control*, Asian Productivity Organization, Tokyo.
- Ishikawa, K. (1985), *What is Total Quality Control? The Japanese Way*, Prentice-Hall, London.
- Jauch, L. and Orwig, R. (1994), "A violation of assumptions: why TQM won't work in the ivory tower", *Proceedings of the 1994 Southwest Academy of Management, Dallas, TX, March 5*, pp. 243-4.
- Juran, M.J. (1986), "Quality trilogy", *Quality Progress*, August, pp. 14-24.
- Kanji, G.K., Malek, A. and Tambi, B.A. (1999), "Total quality management in UK higher education institutions", *Total Quality Management*, Vol. 10 No. 1, pp. 129-53.
- Kaynak, H. (2003), "The relationship between total quality management practices and their effects on firm performance", *Journal of Operations Management*, Vol. 21, pp. 405-35.
- Lipsey, M. and Wilson, D. (2001), *Practical Meta-Analysis*, Applied Social Research Methods Series, Vol. 49, Sage, Thousand Oaks, CA.
- Mehra, S., Hoffman, J.M. and Sirias, D. (2001), "TQM as a management strategy for the next millennia", *International Journal of Operations and Production Management*, Vol. 21 Nos 5/6, pp. 855-76.
- Morrow, P.C. (1997), "The measurement of TQM principles and work-related outcomes", *Journal of Organizational Behavior*, Vol. 18 No. 4, pp. 363-76.
- Naumann, E., Jackson, D.W. Jr and Rosenbaum, M.S. (2001), "How to implement a customer satisfaction program", *Business Horizons*, Vol. 44 No. 1, pp. 37-46.
- Ralston, D.A., Holt, D.H., Terpstra, R.H. and Kai-Cheng, Y. (1997), "The impact of national culture and economic ideology on managerial work values: a study of the United States, Russia, Japan, and China", *Journal of International Business Studies*, Vol. 28 No. 1, pp. 177-207.
- Ruggieri, A. and Merli, R. (1998), "Critical factors for the implementation of total quality management in Italy: an empirical analysis", *Total Quality Management*, Vol. 9 Nos 4/5, pp. 210-2.
- Sakthivel, P.B., Rajendran, G. and Raju, R. (2005), "TQM implementation and students' satisfaction of academic performance", *The TQM Magazine*, Vol. 17 No. 6, pp. 573-89.
- Terziovski, M. (2006), "Quality management practices and their relationship with customer satisfaction and productivity improvement", *Management Research News*, Vol. 29 No. 7, pp. 414-24.
- Terziovski, M. and Samson, D. (1999), "The link between total quality management practice and organisational performance", *The International Journal of Quality and Reliability Management*, Vol. 16 No. 3, pp. 226-37.
- Tsang, J.H.Y. and Antony, J. (2001), "Total quality management in UK service organisations: some key findings from a survey", *Managing Service Quality*, Vol. 11 No. 2, pp. 132-41.
- Vendrig, L. (1996), "The route to TQM at American Express", *Managing Service Quality*, Vol. 6 No. 5, pp. 45-6.
- Wong, A. (2002), "Sustaining company performance through partnering with suppliers", *The International Journal of Quality and Reliability Management*, Vol. 19 No. 5, pp. 567-80.
- Yang, C. (2006), "The impact of human resource management practices on the implementation of total quality management: an empirical study on high-tech firms", *The TQM Magazine*, Vol. 18 No. 2, pp. 162-73.
- Yasin, M., Correia, E. and Lisboa, J. (2004), "The profitability of customer-targeted quality improvement efforts: an empirical examination", *The TQM Magazine*, Vol. 16 No. 1, pp. 45-9.

-
- Yavas, B.F. (1995), "Employee perceptions of quality: survey results", *The International Journal of Quality and Reliability Management*, Vol. 12 No. 5, pp. 8-17.
- Zeithaml, V.A., Parasuraman, A. and Berry, L.L. (1990), *Delivering Quality Service*, Free Press, New York, NY.

Further reading

- Agus, A. and Abdullah, M. (2000), "The mediating effect of customer satisfaction on TQM practices and financial performance", *Singapore Management Review*, Vol. 22 No. 2, pp. 55-73.
- Ahire, S.L., Waller, M.A. and Golhar, D.Y. (1996), "Quality management in TQM versus non-TQM firms: an empirical investigation", *The International Journal of Quality and Reliability Management*, Vol. 13 No. 8, pp. 8-27.
- Denton, K. (1993), "Total customer satisfaction: the next step", *Industrial Management*, Vol. 35 No. 6, pp. 18-21.
- Ganesan, S. (1994), "Determinants of long-term orientation in buyer-seller relationships", *Journal of Marketing*, Vol. 58 No. 2, pp. 1-19.
- Johnston, C. and Daniel, M. (1991), "Customer satisfaction through quality", *Canadian Business Review*, pp. 12-15, Winter.
- Mittal, V. and Kamakura, W.A. (2001), "Satisfaction, repurchase intent, and repurchase behavior: investigating the moderating effect of customer characteristics", *Journal of Marketing Research*, Vol. 38 No. 1, pp. 131-42.
- Sanderson, M. (1995), "Future developments in total quality management – what can we learn from the past?", *The TQM Magazine*, Vol. 7 No. 3, pp. 28-31.
- Sun, H. (1999), "Diffusion and contribution of total quality management: an empirical study in Norway", *Total Quality Management*, Vol. 10 No. 6, pp. 901-14.
- Taguchi, G. (1986), *Introduction to Quality Engineering*, Asian Productivity Organization, American Supplier Institute, Dearborn, MI.

Corresponding author

Satish Mehra can be contacted at: smehra@memphis.edu